

WHAT IS CLAIMED IS:

- 1           1.       A device for facilitating hemostasis of a puncture in the wall of a  
2 blood vessel, the device comprising:  
3               an introducer for compressing an absorbable sponge pledget for  
4 delivery into a patient to seal the puncture, the introducer including a staging  
5 chamber with a first diameter configured to receive the absorbable sponge pledget,  
6 a delivery chamber with a second diameter smaller than the first diameter, and a  
7 tapered section between the staging chamber and the delivery chamber for  
8 compressing the pledget; and  
9               a plunger insertable into the introducer for ejection of the pledget  
10 from the delivery chamber into a patient to seal the puncture in the blood vessel  
11 wall.
- 1           2.       The device according to Claim 1, wherein the plunger includes a  
2 through bore for threading a guidewire through the plunger to accurately place the  
3 absorbable sponge pledget at an exterior of the puncture in the blood vessel.
- 1           3.       The device according to Claim 1, wherein the staging chamber has a  
2 substantially constant diameter and the delivery chamber has a substantially  
3 constant diameter.
- 1           4.       The device according to Claim 3, wherein the staging chamber has a  
2 length shorter than a length of the delivery chamber.
- 1           5.       The device according to Claim 1, wherein a proximal end of the  
2 introducer has a fitting for connection to a syringe for hydration of the pledget.

1           6.       The device according to Claim 1, wherein a distal end of the  
2       introducer has a smooth rounded outer surface for insertion into tissue of the  
3       patient which is configured to resist entering the puncture.

1           7.       The device according to Claim 1, further comprising a depth  
2       indicating member positioned on an exterior of the introducer and movable  
3       longitudinally with respect to the introducer.

1           8.       The device according to Claim 1, further comprising a kneading  
2       feature within a lumen of the introducer for compressing, expanding, or changing  
3       a shape of the absorbable sponge pledget passing through the lumen.

1           9.       The device according to Claim 8, wherein the kneading feature is at  
2       least one enlarged diameter section of the lumen.

1           10.      A system for facilitating hemostasis of a puncture in the wall of a  
2       blood vessel, the system comprising:  
3               a tract dilator having a lumen for allowing the tract dilator to be  
4       passed over a guidewire;  
5               an introducer having a lumen for allowing the introducer to be  
6       passed over the guidewire, the introducer lumen including a staging chamber  
7       configured to receive an absorbable sponge pledget and a delivery chamber;  
8               a plunger having a lumen for allowing the plunger to be passed over  
9       the guidewire, the plunger insertable into the introducer for ejection of the pledget  
10      from the delivery chamber into a patient to seal a puncture in a blood vessel wall.

1           11.     The system according to Claim 10, wherein the staging chamber has  
2     a first diameter, the delivery chamber has a second diameter smaller than the first  
3     diameter, and a tapered section is positioned between the staging chamber and the  
4     delivery chamber for compressing the pledget from the introducer into the  
5     delivery chamber.

1           12.     The system according to Claim 10, wherein a proximal end of the  
2     introducer has a fitting for connection to a syringe for hydrating the absorbable  
3     sponge pledget and injecting the pledget from the introducer into the delivery  
4     chamber.

1           13.     The system according to Claim 10, wherein a distal end of the  
2     introducer has a smooth rounded outer surface for insertion into tissue of the  
3     patient.

1           14.     The system according to Claim 10, further comprising a depth  
2     indicating member positioned on an exterior of the tract dilator and a second depth  
3     indicating member positioned on the exterior of the introducer for accurately  
4     ejecting the absorbable sponge pledget into a patient to seal the puncture in the  
5     blood vessel wall.

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15.     A method for facilitating hemostasis of a puncture in the wall of a  
blood vessel, the method comprising:  
3           establishing a depth of a blood vessel puncture of a patient;  
4           loading an introducer with an absorbable sponge pledget by  
5     hydrating and compressing the pledget;

6 loading the introducer over a guidewire positioned in the blood  
7 vessel by inserting the guidewire through the hydrated and compressed pledget;  
8 and

9 ejecting the pledget adjacent the blood vessel puncture to facilitate  
10 hemostasis while maintaining the guidewire in place.

1 16. The method for facilitating hemostasis of a puncture in the wall of a  
2 blood vessel according to Claim 15, wherein the step of establishing a depth of a  
3 blood vessel is performed by introducing a tract dilator into a tissue tract until a  
4 distal end of the tract dilator abuts an exterior of the blood vessel wall.

1 17. The method for facilitating hemostasis of a puncture in the wall of a  
2 blood vessel according to Claim 16, wherein a depth of the tract is indicated by a  
3 depth indicating member.

1 18. The method for facilitating hemostasis of a puncture in the wall of a  
2 blood vessel according to Claim 15, wherein the step of establishing a depth of a  
3 blood vessel is performed by introducing the introducer over the guidewire and  
4 into a tissue tract until a distal end of the introducer abuts an exterior wall of the  
5 blood vessel.

1 19. The method for facilitating hemostasis of a puncture in the wall of a  
2 blood vessel according to Claim 15, wherein the pledget is partially ejected,  
3 compression is applied until hemostasis begins, and the pledget is then fully  
4 ejected.

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B1  
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